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Introduction

A minimal domain for focus assignment?

- Phonological focus may be assigned to non-final prosodic words (PW) within the phonological phrase (ϕ), both in European and in Brazilian Portuguese (EP and BP, respectively) – Frota (2000, 2002); Fernandes (2007).

- In EP, in a morphosyntactic word with two PWs, focus is restricted to the prominent PW of the Prosodic Word Group (PWG) (i.e. the prosodic domain that includes all the material within a morphosyntactic word) - Vigiário (2010); in Swedish, focus is not assigned to word internal elements (Bruce & Hermans 1999; Gussenhoven & Bruce 1999).

Prosodic focus and emphatic stress marking in Portuguese

- Prosodic focus in EP and BP: specific pitch accent, H*+L on the head of focused constituent, followed by pitch range compression (Frota 1995, 2000; Fernandes, 2007).

In BP, L*+H may also be associated with the head of the focused constituent, optionally followed by a phrasal tone (Lp) (Fernandes 2007; Frota et al. to appear).

- Emphatic stress: high pitch at the beginning of the word; highlights the whole word in several Romance languages (e.g. Vigiário 2003; Hualde 2007).

- Contrastive focus differs from emphatic stress both in pragmatic meaning and in the phonological grammar.

Main goals

- To describe the strategies used by speakers in a task eliciting contrastive focus on PWs within morphologically complex words (e.g. root-compounds, V+N compounds, -mente adverbs).

- To test whether the restriction that focus is limited to the head of PWG extends to BP.

Method

The corpus

- 32 sentences in contexts eliciting focus on PW1 (22), on PW2 or the whole PWG (10); 3 speakers x 3 repetitions; 108 sent. excluded (produced as neutral/mispronounced); 180 analysed.

- 20 sentences in context eliciting broad focus, included for comparison; 20 sentences x 3 speakers x 3 repetitions; 76 sent. excluded (mispronounced); 104 analysed.

Speakers: 3 Female speakers from Cascavel, Paraná (Brazil), aged 20-25-years-old;

Production task: a context sentence was presented on a PC screen, followed by a question heard on headphones, referring to that sentence; subjects had to answer the question using the material displayed on the screen.

(1) The three steps in the production of a sentence

with focus elicited on PW1 of a branching PWG [(Tele)_{PW}(processamento)_{PW} PWG]

[Context sentence read on the screen] *Os técnicos ensinaram teleprocessamento aos alunos.*

'The technician taught teleprocessing to the students.'

[Question heard on headphones]

Os técnicos ensinaram autoprocessoamento aos alunos?

'The technician taught self-processing to the students?'

[Target sentence produced]

(Não). Os técnicos ensinaram teleprocessamento aos alunos.

'(No). The technician taught teleprocessing to the students.'

Prosodic labeling: Pitch accents and boundary tones were labeled on the basis of the inspection of the F0 contour and perception, using P-ToBI (Frota et al. to appear).



Results

Branching PWG

- Focus elicited on PW1

Non-neutral prosody (N=129)	PW1	PW2/PWG
Emphatic stress Left-edge PW – LH	25%	0%
Emphatic stress PW head – LH*	27%	8%
Focal accent PW head – (L)H*+L	40%	0%

Table 1 – Non-neutral prosody in the realization of PWG in contexts eliciting focus on PW1 (Figs. 1-3).

Branching PWG

- Focus elicited on PW2/PWG

Non-neutral prosody (N=51)	PW1	PW2/PWG
Emphatic stress Left-edge PW – LH	0%	8%
Emphatic stress PW head – LH* on PW1 / H+L* on PW2	31%	51%
Focal accent PW head – (L)H*+L	10%	0%

Table 2 – Non-neutral prosody in the realization of PWG in contexts eliciting focus on PW2 or PWG (Figs. 4-5).

Branching PWG

- Neutral contexts

Non-neutral prosody	PW1	PW2
Emphatic stress Left-edge PW	4%	0%
PW head	17%	3%
Neutral	76%	

Table 3 – Non-neutral versus neutral prosody within branching PWG in neutral contexts.

Contrastive focus elicited on PW1

✓ emphatic stress at the left-edge of PW1 (LH) or on the head of PW1 (LH*) (Figs. 1-2)
✓ focus pitch accent (L)H*+L may be assigned to the head of PW1 (Fig. 3)

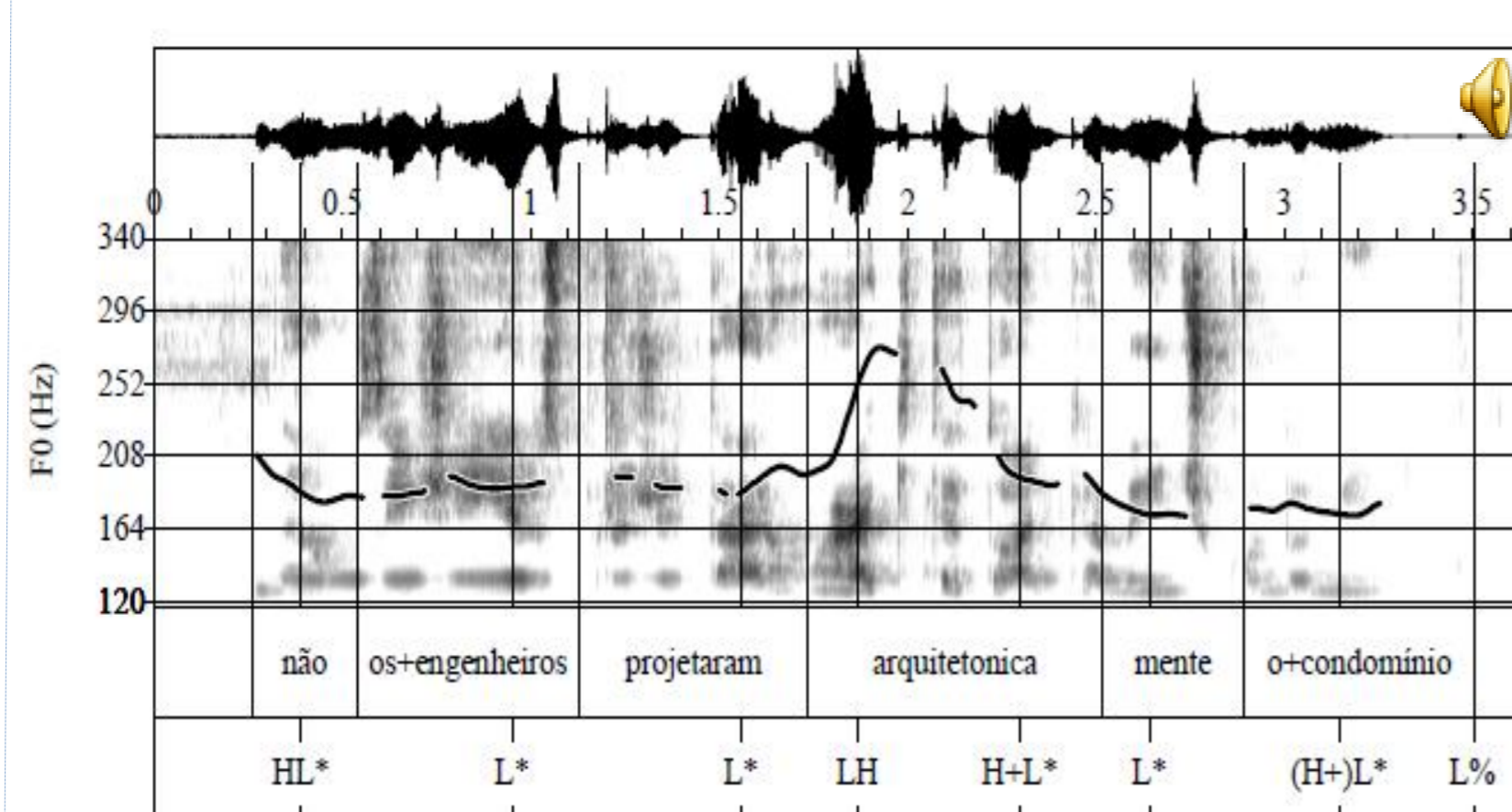


Figure 1: Emphatic stress (LH) at the left-edge of PW1 – Contrastive focus elicited on PW1. *Os engenheiros projetaram ARquiteticamente o condomínio* 'The engineers designed architecturally the condominium'.

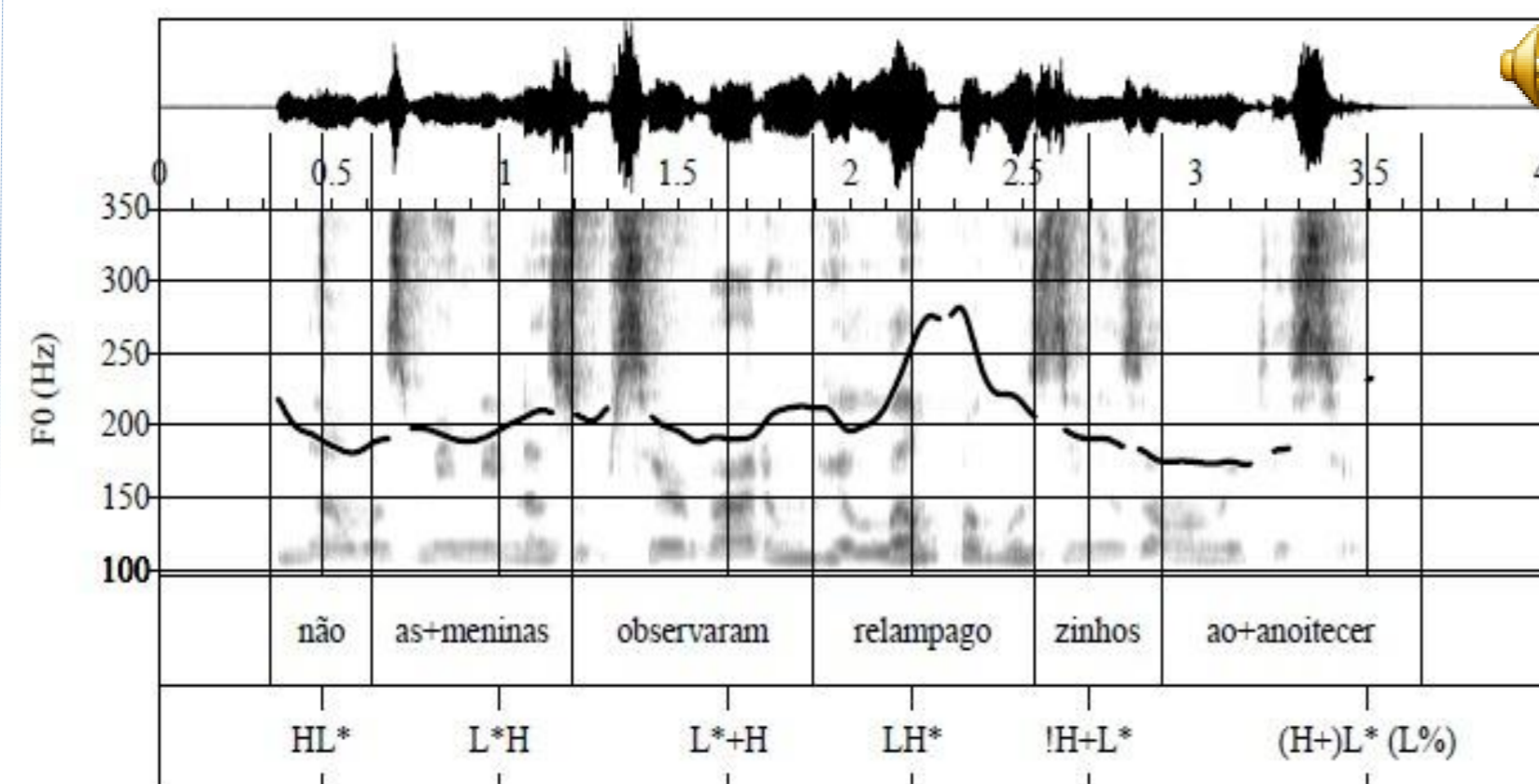


Figure 2: Emphatic stress (LH*) on the head of PW1 – Contrastive focus elicited on PW1. *As meninas observaram relampagozinhos ao anoitecer* 'The girls looked at small lightning at nightfall'.

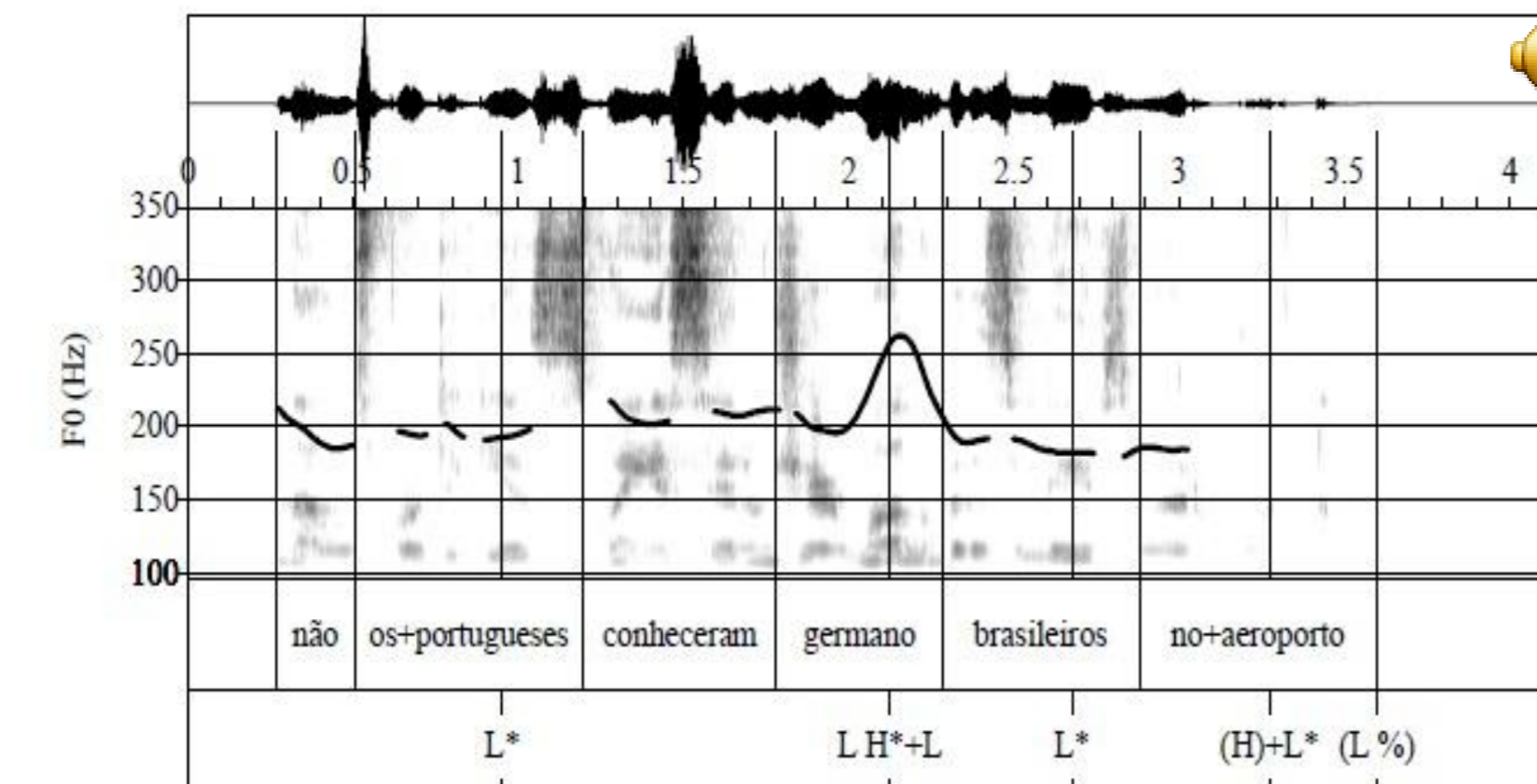


Figure 3: Focal accent (LH*+L) on the head of PW1 – Contrastive focus elicited on PW1. *Os portugueses conheceram germano-brasileiros no aeroporto* 'The portuguese knew german-brazilians at the airport'.

Contrastive focus elicited on PW2/PWG

✓ emphatic stress at the left-edge of PW2 (LH) or on the head of PW1 (LH*) (Figs. 4-5)
✓ pitch accent (H+L*) on the PWG head may be realized with extended pitch range (Fig. 6)

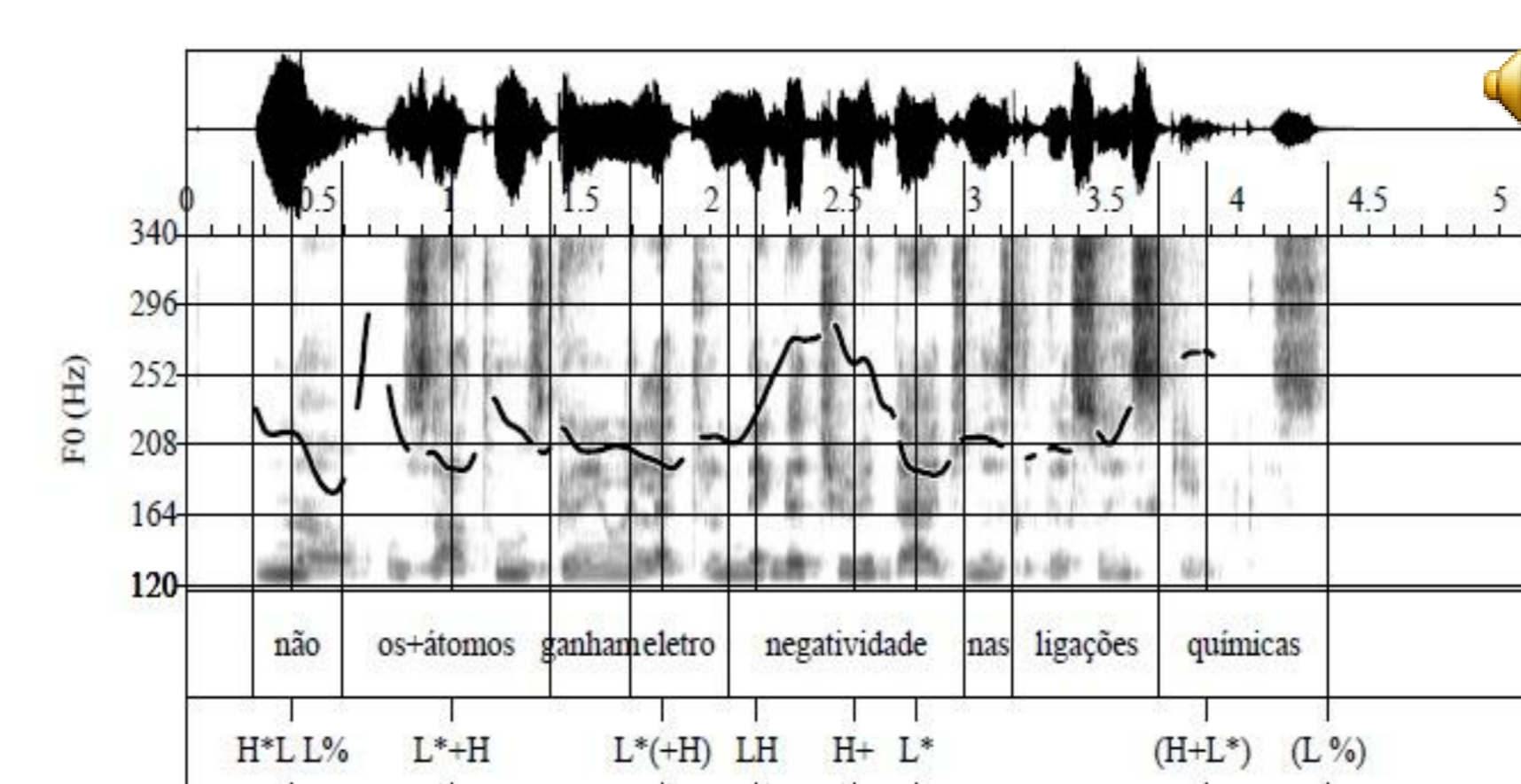


Figure 4: Emphatic stress at the left-edge of PW2 (LH) – Contrastive focus elicited on PW2. *Os átomos ganham eletronegatividade nas ligações químicas* 'The atoms get electronegativity in the chemical bonds'.

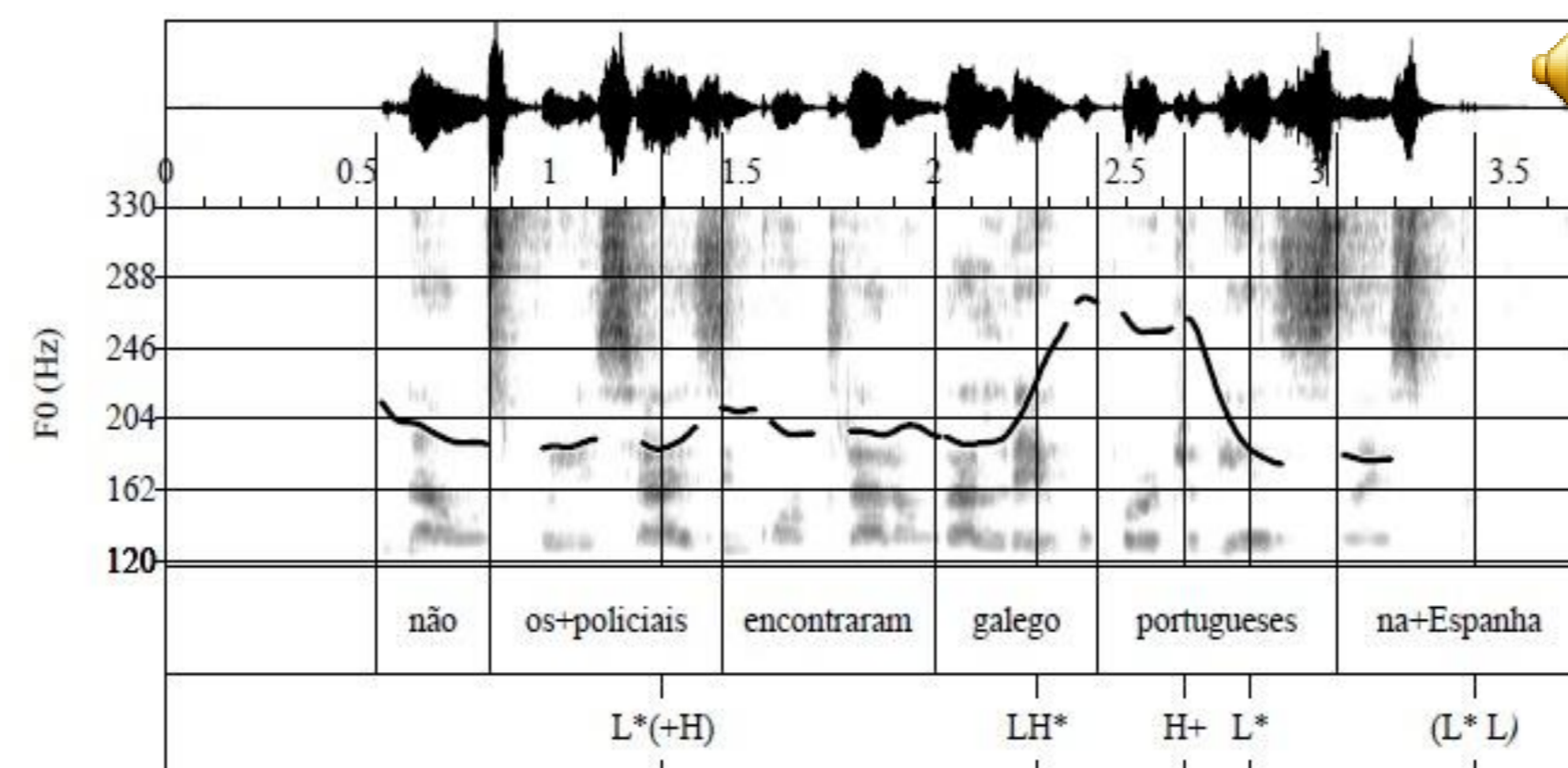


Figure 5: Emphatic stress (LH*) on the head of PW1 – Contrastive focus elicited on branching PWG. *Os policiais encontraram galego-portugueses na Espanha* 'The police found galician-portuguese in Spain'.

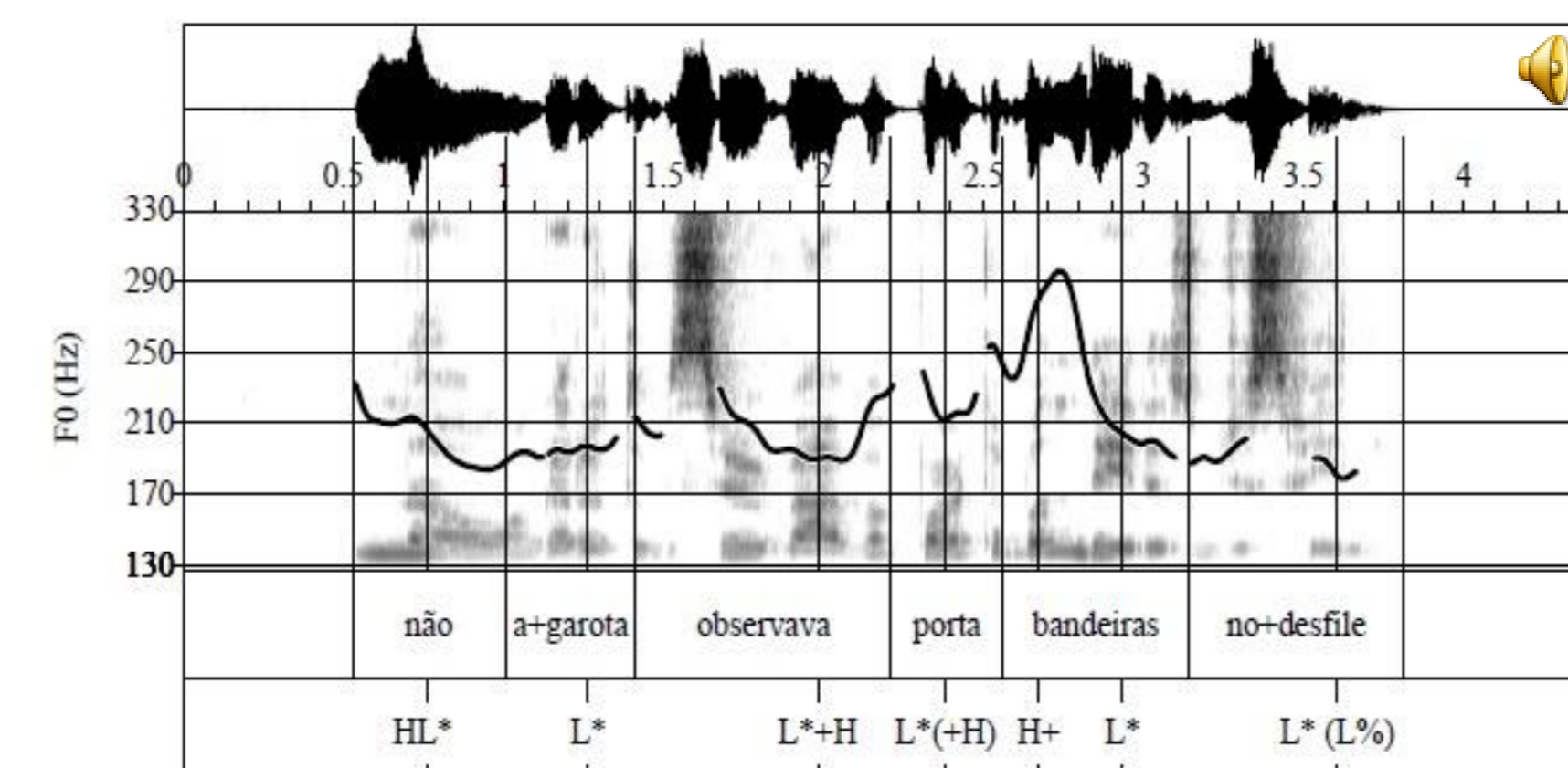


Figure 6: Emphatic stress (H+L*) on the PWG head with extended pitch range – Contrastive focus elicited on branching PWG. *A garota observava porta-bandeiras no desfile* 'The girl looked at standard-bearer at the parade'.

Neutral contexts

✓ the same emphatic stress may be appear at the left-edge of PW1 or on the head of PW1 (LH or LH*) when branching PWG are in neutral context (Figs. 7-8)

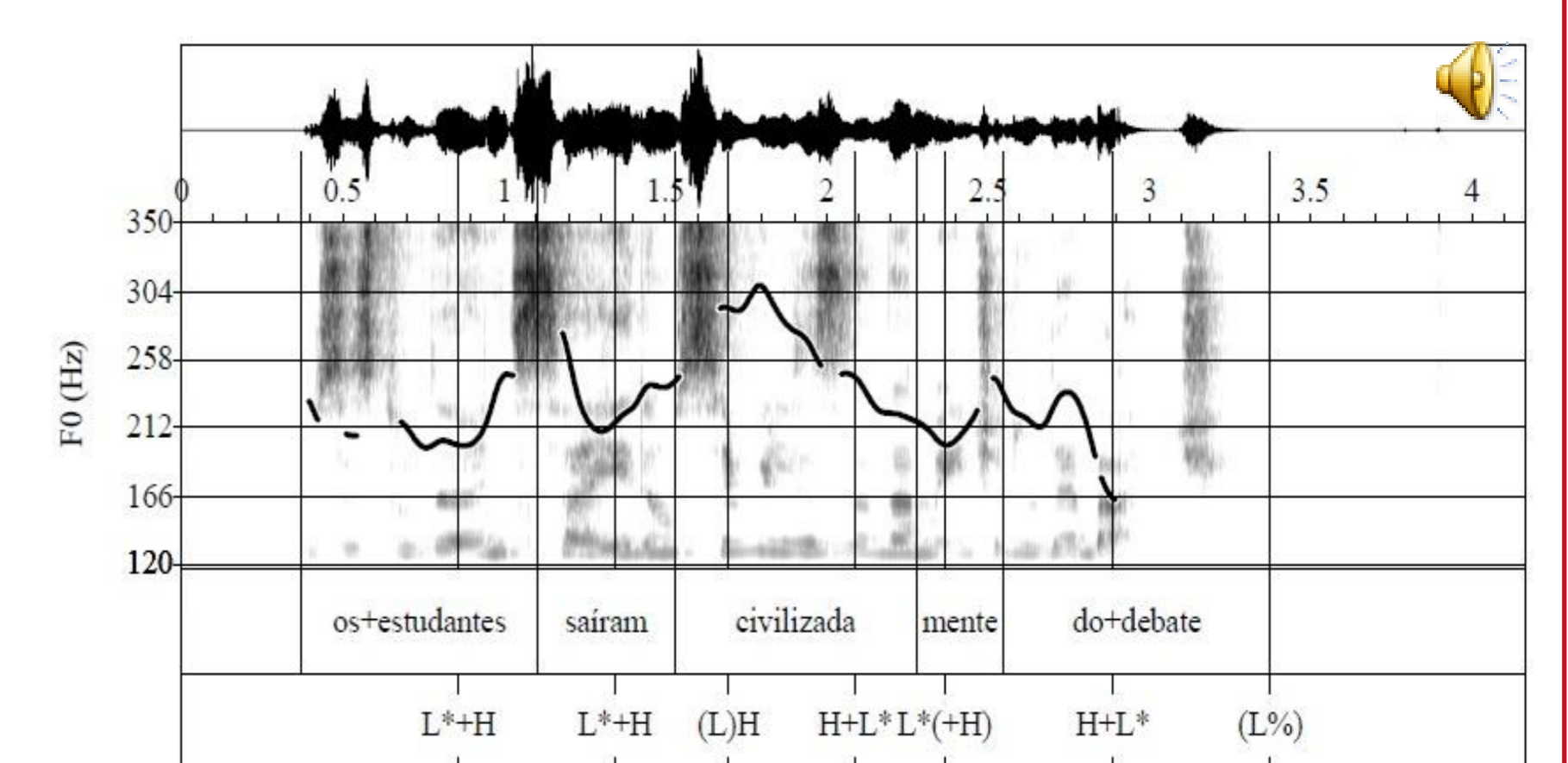


Figure 7: Emphatic stress (LH) at the left-edge of PW1 in a branching PWG – Neutral context. *Os estudantes saíram Civilizadamente do debate* 'The students left civilly the debate'.

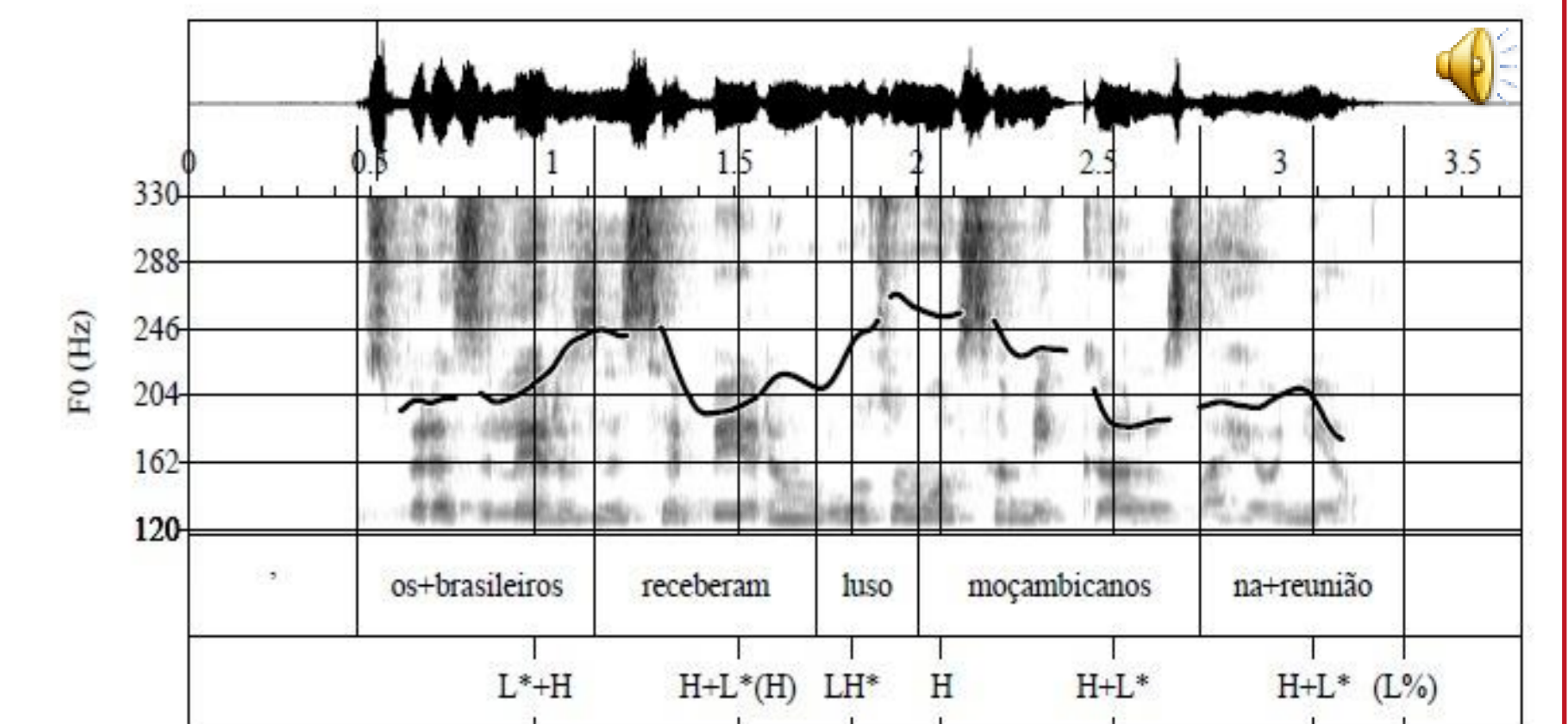


Figure 8: Emphatic stress (LH/LH*) at the left-edge/head of PW1 in a branching PWG – Neutral context. *Os brasileiros receberam Luso-moçambicanos na reunião* 'The brazilians received portuguese-mozambicans at the meeting'.

✓ In most sentences with focus elicitation the element in contrast – either **focused or emphasized** – is preceded and followed by tonal compression (67% when the focus is elicited on PW1 and 71% when the focus is elicited in PW2/ PWG).

✓ Tonal compression before and after emphatic stress is not found in neutral contexts (Figs. 1-6 vs 7-8).

Discussion & conclusions

- Prosodic strategies for marking contrastive focus elicited on branching PWG:

> Focus elicited on PW1:

- Emphatic stress marked with initial rise - (L)H - at the left edge of PW1 or LH* on the stressed syllable of PW1 – (L)H linked to the left-edge of PW1 and secondary association to PW1 stressed syllable in the latter case;
- Focal stress (L)H*+L on PW1 (less frequent) – PA also found in other varieties of BP and EP + optional phrasal tone (L-) at PW1 left-edge? Or a variant of L*+H L- (Fernandes 2007, Frota to appear), with a phrasal boundary breaking the compound?

> Focus elicited on PW2 or PWG:

- Emphatic stress (LH) at the left-edge of PW2 (less frequent);
 - H+L* with extended pitch range on PWG's head – exploring pitch range dimension only in focus marking (–other languages; diff. from EP and other varieties of Portuguese)?
 - A focal accent (L)H*+L may appear on PW1 followed by pitch range compression – could it be that in this variety of BP speakers use the same phonological codification for emphasis and focus? Can emphasis on PW1 pragmatically highlight the whole PWG?
 - No focus PA - (L)H*+L - on the head of branching PWG when focus is elicited on PW2/PWG, unlike when elicited on PW1 – no obvious reason for this asymmetry (e.g. in other varieties focus marking is independent of status of PW within Φ);
- > Frequent use of pitch range compression *before and after* the element in contrast, both with emphasis and focus accent (69% of non-neutral focus elicited sentences; and 31% either before or after) – pitch compression may play a crucial role in signaling contrast in BP (e.g. Romanian – Manolescu, Olson & Ortega-Llebaria 2009);

- The same emphatic stress on first/stressed syllables of PW in neutral contexts, but NO pitch compression;

- A clear preference for initial emphasis (left edge of PW1 or head of PW1) over focal accent in contrastive focus contexts;

- If there is a minimal domain for focal prosodic marking, it seems to be lower than the PWG in BP.

Selected references

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